

Installation Manual of VRF NV6 Centralized Controller KJ-08A1.00



⚠ Safety Warning

Only qualified personnel should install and service the equipment. The installation, starting up and servicing of heating, ventilating and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers and labels that are attached to the equipment.

August 2023
Version B

● Please keep a backup after reading

Dear user:

Welcome to buy and use our products, and thank you for your trust in our company! We would like to create a comfortable and healthy living space for you with our dedicated service, and we hope you can give us your valuable comments on our work.

Please read this manual carefully before using this product, and please keep it properly after reading.

The Company is committed to continuous improvement of the product and reserves the right to change design and specifications without notice. Thanks for your understanding.

Safety precautions

This Manual is prepared to guide the user to install and use this centralized controller. Please read this Manual carefully and follow the contents of this Manual before installation.

Warning: Dangerous operations may pose a threat to personal safety. Please be careful; Juveniles are not allowed to install and use this product to avoid personal injury.

This product should be installed by installation personnel or service providers with professional qualifications

● Product failures, water leakage, electric shocks, fires and other risks may be caused during installation.

This product should be installed on a wall that is solid enough to support the weight of product

● If the wall is not solid enough, the product may fall and be damaged.

This product should be connected to a standard power supply after installation

● If this product is not connected to a standard power supply, a fire or damage to the product may be incurred.

After this product is installed, do not try to move or disassemble it

● A fire or damage to the product may be incurred. If maintenance is required, please contact

qualified installation personnel or service providers.

Make sure that this product is installed based on the requirements of this Manual

● If the installation is not conducted based on this Manual, there may be a risk of electric shock or fire.

Make sure that this product is wired by professionals in accordance with the local standards and the standards of this Manual

● If the installation is completed by non-professionals, product failures, electric shocks, fires and other risks may be caused.

● This product should not be installed in an environment with dense salt spray, and should be kept from water

● Tension should not be generated during wiring to avoid the electric leakage caused by wire breakage







● This product should be installed in an indoor environment at a temperature of 0°C to 39°C and be protected from direct sunlight.

● Do not connect the power wire to the communication cable interface.

● Make sure that the product will not interfere with other products if it is installed in a hospital or other environments

Preparation before installation

Please carefully check whether the following accessories are contained in the product before installation. (The type and quantity of accessories may change)

Name	Controller	Mounting bracket	Power adapter	Wire connector	Set screw	Manual
Quantity	1	1	1	2	2	1
Picture						

Precautions:

- The centralized controller must be installed by professionals;
- Make sure that the centralized controller is power-off prior to installation;
- Make sure that communication cables and power wires are connected in accordance with the relevant standards and all wires are laid through walls or conduits to avoid direct contact with users.

Instructions for functions, appearance and interfaces of centralized controller

1. Functions of centralized controller

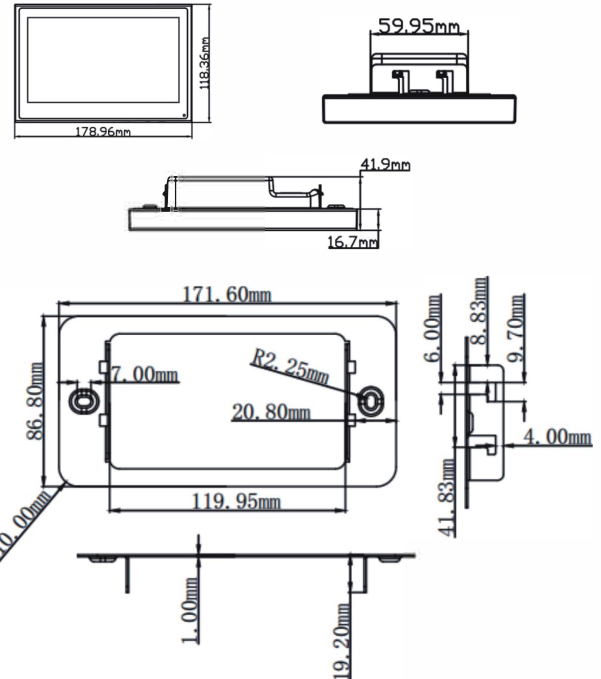
- At most 256 indoor units can be controlled
- Single control, free combination control and all control;
- Weekly schedule setting
- Automatically scanning and adding of indoor units during first configuration
- Information backup and restoration



2. Appearance of centralized controller

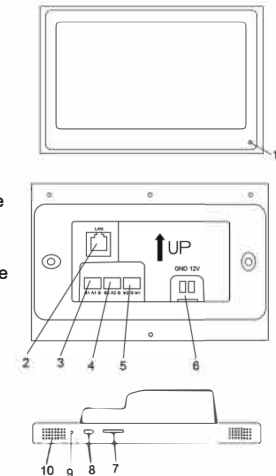
Dimension of controller (length×width×thickness)

External dimension: 178.96×118.36×16.7mm; internal dimension: 120 × 59.95 × 25.2mm



3. Interfaces of centralized controller

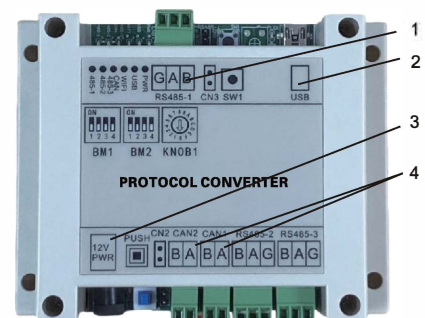
- ① Indicator lamp
- ② RJ45 network interface (unavailable)
- ③ RS485 interface 1:B1-negative electrode of signal wire; A1-positive electrode of signal wire;
- ④ RS485 interface 2:B2-negative electrode of signal wire; A2-positive electrode of signal wire (unavailable)
- ⑤ Two-way DI fire control input interface: IN-1-input port; IN-2-input port; G-signal ground wire (unavailable)
- ⑥ 12V input of power adapter, GND-negative electrode, 12V-positive electrode;
- ⑦ TF card socket
- ⑧ Micro USB interface
- ⑨ Reset button
- ⑩ Buzzer



Instructions for interface and configuration of protocol converter

Interface of protocol converter



1. G/B/A RS485 interface (connected to RS485 interface 1 of centralized controller);
2. USB DC5VS input interface (and 12V interface; select one of two);
3. 12V input interface (and USB interface; select one of two; when PUSH is pressed, 12V interface is selected; when PUSH is released, USB interface is selected)
4. A/B CAN2 interface (connected to air conditioner; CAN 1 is the same as CAN 2)



Configuration of protocol converter

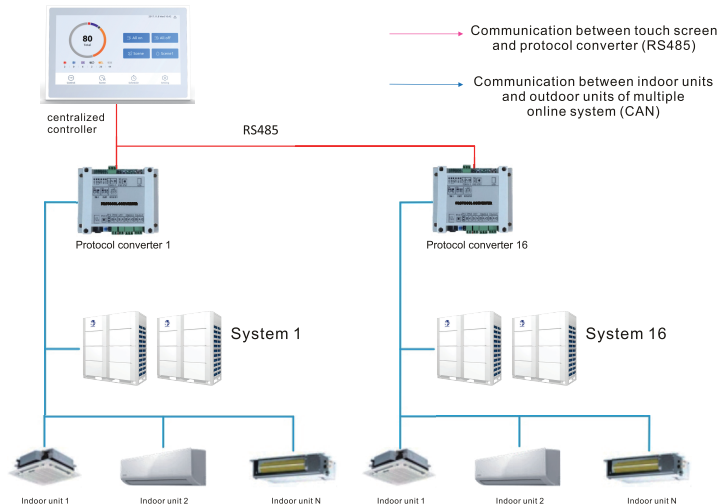
The protocol converter is configured by "selecting address via dial codes". The quantity of protocol converters corresponds to that of multiple online systems. For example, a total of 10 multiple online systems are installed for this work, so 10 protocol converters must be equipped on site. The communication address of each gateway should be arranged in the order of 0x10-0x1F and should not be repeated.

Address relationship of protocol converter:

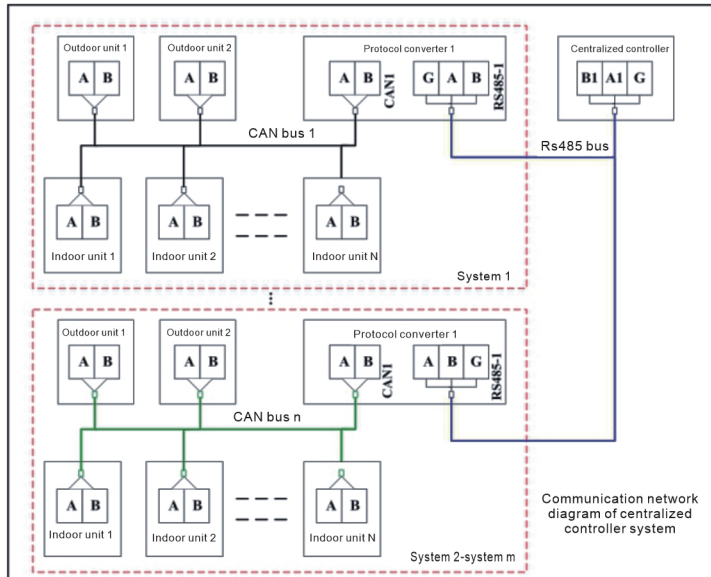
No. of protocol converter	Communication address	Dial code combination	
		BM2_4	KN0B1
1#	0x10	OFF	0
2#	0x11	OFF	1
...
16#	0x1F	OFF	F
Picture			
Description		1 indicates OFF and other numbers indicate ON	The value indicated by the arrow means the address

Installation, debugging and wiring of centralized controller

System structure diagram of centralized controller



Wiring diagram of centralized controller system



Note:

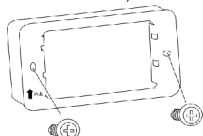
1. The total length of the RS485 bus must not exceed 200 meters. Shielded cable (3×0.75mm²) is recommended.
2. The total length of the CAN bus must not exceed 1000 meters. Shielded cable (2×0.75mm²) is recommended.

Installation steps of centralized controller

First step: Embed a type 17 bottom case inside the wall, with a dimension (length*width*depth) of 168*79*60mm (internal dimension of case)



First step



Second step

Second step: Put hardware at the bottom of case in the designated direction, fix it on the bottom case by using the screws that match the product, and then adjust it to a horizontal plane.

Attention: The hardware has sharp edges, so special care is required to avoid cutting hands

Third step: Connect the corresponding cables according to the wire sequences indicated on the power supply wire socket and signal wire socket on the rear housing of controller

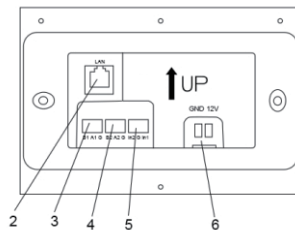
2. RJ45 network interface (unavailable)

3. RS485 interface 1: B1-negative electrode of signal wire; A1-positive electrode of signal wire;

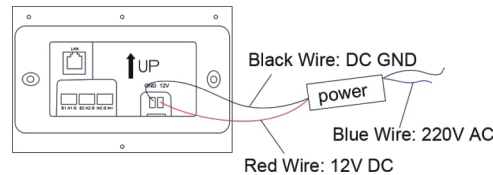
4. RS485 interface 2: B2-negative electrode of signal wire; A2-positive electrode of signal wire (unavailable)

5. Two-way DI fire control input interface: IN-1-input port; IN-2-input port; G-signal ground wire (unavailable)

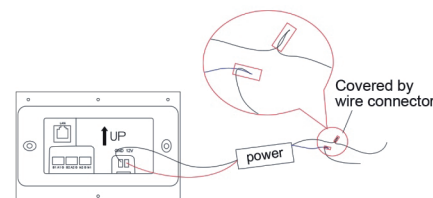
6. 12V input of power adapter, GND-negative electrode, 12V-positive electrode;



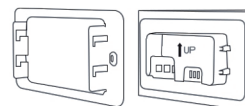
Fourth step: Connect the blue and gray wires of power adapter to AC 220V, connect the black wire on the other end to GND and the red wire to 12V, and lock them with screws



Fifth step: Cut a wire with an appropriate length at AC end of power adapter, tighten it together with the AC 220V wire, install a wire connector on the wire end and tightly press the wire connector with wire crimpers, as shown in the figure below. Attention: Wires should be pressed at the conductor of metal connector, and no wire cores are allowed to expose after the wire connector is pressed to avoid electric shocks.



Sixth step: Align four fixed bumps on both sides of rear housing of controller with the clamps of guide slot of hardware according to the installation direction indicated on the rear housing, and then push the controller into the end of wall.



Sixth step



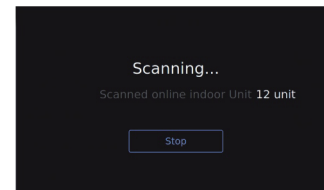
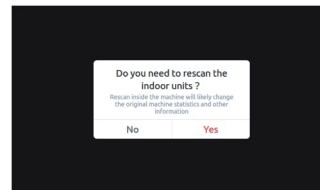
Seventh step

Seventh step: Slightly push down the controller until it is locked and install it on the metal bracket

Installation and debugging steps of centralized controller

First step: Properly connect the wires of all units and devices as shown below and confirm that no problems exist after detection.

Second step: After the centralized controller is powered on and started successfully, enter Setting>Engineering Mode (password: 0000)>Management of Indoor Unit>Automatically Scan Indoor Unit, and then click "Yes" to enter the function of automatically scanning indoor units and to display the quantity of indoor units scanned.



Third step: Confirm whether to stop scanning according to the quantity of indoor units installed actually in the work. If the quantity of indoor units scanned does not correspond to that installed actually in the work, detect the wiring and power supply of the work, and after confirmation, start the scanning operation again until all indoor units are scanned.

Fourth step: The centralized controller can be put into use after all indoor units are scanned.

Note: For other functions of centralized controller that are not mentioned in this Manual, please refer to "Setting > Help" of centralized controller.